

PATENT SPECIFICATION

DRAWINGS ATTACHED

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COMPLETE SPECIFICATION

Improvements in or relating to Key Filing Devices

I, SCIPIO ROGER MANZARDO, of Swiss nationality, of 4, Schwanenplatz, Lucerne, Switzerland, do hereby declare the invention, for which I pray that a patent may be granted to me, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to key filing devices.

According to the present invention there is provided a key filing device comprising a panel formed with a plurality of spaced apart and substantially parallel slots so that, when the panel is disposed in a normal substantial vertical position, the slots will extend substantially horizontally, a plurality of key-supports each constituted of a single piece of material and having a body portion adapted to receive a key-identification label, at least one clamping member projecting rearwardly from said body portion, and a key hook projecting forwardly from the base of said body portion, said key supports being removably fixed to said panel by engagement of said clamping members with an edge of at least one selected one of the slots, the construction of said clamping members being such as to enable the key-supports to be attached to and removed from the panel substantially in a direction at right-angles to the plane of said panel.

For a better understanding of the invention, several embodiments thereof will now be described, by way of example, with reference to the accompanying drawings, in which:—

Figure 1 is a front view of a key filing device according to a first embodiment,

Figure 2 is a horizontal section taken on the line II—II of Figure 1,

Figure 3 is a vertical section taken on the line III—III of Figure 1,

Figure 4 is a front view on a larger scale of a key-support,

Figure 5 is a side view of the said key-support,

Figure 6 is a plan view of the key-support according to Figure 4, 45

Figure 7 shows in similar representation to Figure 4, a modified form of key-support,

Figure 8 illustrates in similar representation, another form of key-support, 50

Figure 9 is a side view of the key-support of Figure 8, as attached to a plate shown in vertical section,

Figure 10 is a vertical section of part of a plate or panel adapted for the reception of key-supports according to Figures 4 to 7, 55

Figure 11 is a side view of a further form of a key-support as engaged with a panel shown in vertical section,

Figure 12 is a similar representation of still further form of a key-support and associated panel, 60

Figure 13 is a front view of a flat key fitted with an identification and suspension cap, 65

Figure 14 is a vertical section through the cap illustrated in Figure 13,

Figure 15 is a vertical section of a key cabinet, taken on the line XV—XV of Figure 16, and illustrating another embodiment, 70

Figure 16 is a sectional view on the line XVI—XVI of Figure 15,

Figure 17 illustrates the key cabinet as opened and in horizontal section on the line XVII—XVII of Figure 16, 75

Figure 18 illustrates in perspective view another embodiment of a key cabinet with door opened,

Figure 19 is a horizontal section of the cabinet of Figure 18 with door partly closed, 80

Figure 20 is a detail view of a single one of the members, which are assembled to form the key panel provided in the cabinet according to Figures 18 and 19,

Figure 21 is a front view of another embodiment with a key panel made up of several similar parts, together with a frame keeping these parts assembled, 85

Figure 22 is a vertical section on the line XXII—XXII of Figure 21.

Figure 23 shows a detail in cross-section on the line XXIII—XXIII of Figure 21, but 5 on a larger scale with respect thereto,

Figure 24 represents a single side member of the frame according to Figures 21 and 22, on a larger scale and partly in longitudinal section.

10 Referring more particularly to Figures 1 through 3, the arrangement for keeping or filing keys comprises similarly designed panels 30 made of sheet-metal plates or other material. Each of said panels is provided with 15 a plurality of horizontal slots 31 arranged in spaced relation one over another. Key-supports 32 are removably and displaceably engaged over the top edge of the panel 30 and on the lower edges of the slots 31. The 20 design of the key-supports 32 is shown more closely in Figure 3 through 6.

Each of the key-supports 32 includes a body portion which forms a label-holder 33, a key suspension hook 34 projecting forwardly from the bottom of the label-holder, and a clamping part or member which projects rearwardly from the label-holders. All these parts 33, 34, 25 35 of the key-support are constituted of a single piece of sheet-metal or other suitable material. The clamping part 35 at the rear of the holder 33 comprises a tab which extends rearwardly from the upper edge of the label-holder and is bent downwardly to define a resilient hook adapted frictionally and 30 removably to grip the top edge of the panel 30 or the lower edge of a transversal slot 31 as shown in Figures 1 and 2. By the resilient action of the clamping part 35, the panel 30 will be clamped between the clamping part 35 and the back of the label-holder or body portion 33 of each key-support 32. The hooks 34 of the key-supports 32 can receive either a bit key, or a flat key having a handle which is formed, as is usually the case, with a hole 35 which can be engaged over a hook 34. Into the label-holder 33 a designation strip or plate 36 may be removably and changeably inserted. The plate or strip 36 may carry a 40 numeral or other identification mark of the key belonging to the respective key-support 32.

To suitably identify the keys themselves, it is preferable for the handle of each key to be covered with a cap 40 of elastically stretchable material, say, rubber. The cap 40 is flat and, by reason of its elasticity, it may be easily engaged over key handles of any appropriate form and size, especially over handles of bit keys and flat keys. The cap 40 has at its top, an extension 41 formed with an eye 42 for engagement by the suspension hook 34. Moreover, said extension 41 has on one side a cam-like projection 43 which permits of easily recognizing the proper inserted position of the key and is particularly 45

adapted, for instance, to be felt in the dark. The flat wall or disc at one side of the cap 40 has a pocket 44 with a narrow opening which is accessible from below and into which the designation plate 45 may be removably and changeably inserted. Through 70 a window 46 a portion of the designation plate 45 and a numeral or other identification mark applied thereto is visible. Advantageously both strips or plates 36 and 45 respectively of the key-support 32 and the cap 40 of the related key, are marked in the same way.

The caps 40 of different keys may have different colours, for instance, the keys of different floors of a building or of different departments of a factory may in each case be furnished with a cap or a certain definite colour in order to distinguish the keys more easily.

80 The panels 30 are fitted with holding means 50, 51 for a removable and changeable index 52 listing all the keys being kept on the respective panel.

According to Figs. 1 and 2, two panels 30 arranged in superposed relation are interconnected by two lateral straps 55 which are secured by screws 56 to one panel 30 and/or the other. The same screws 56 are also used for uniting the panels 30 in side-by-side arrangement. Between the panels overlying each other there is a space which permits of clamping the key-supports 32 to the top edge of the lower panels.

90 The aforescribed arrangement involves the great advantage that at all times it may be readily suited to the requirements. The number and arrangement of the key-supports 32 on each panel 30 may be chosen as desired, for instance so as to permit of easy reference to a certain group of keys, or that keys as much as possible can be hung up on a panel. According to requirements, only a single one of the panels 30 may be used or any number thereof be connected to each other in the desired arrangement as described. The panels 30 may, for instance, be attached to a wall 95 or within a cabinet.

100 Fig. 7 shows a modified form of a key-support 60 which is distinguished from the key-support 32 only in that, in place of a single clamping part 35 there are now provided two smaller clamping parts 61, each bent down at the back of the label-holder 33.

110 Figs. 8 and 9 again illustrate another form of embodiment of a key-support 65. In this case, the clamping parts 66 are punched out of the material of the label-holder or body portion 33 and bent to the back thereof. The two clamping parts 66 are disposed one over the other, resilient from each other. Fig. 9 also shows, how the key-support 65 is removably clamped to the panel 67. The two clamping parts 66 resiliently engage the upper and lower edges of a transversal slot 68 in 115 120 125

the panel 67, snapping in therewith. According to Fig. 9, the two longitudinal edges of the slot 68 are offset to the rear, which, however, need not necessarily be the case.

5 Fig. 10 shows another design of a transversal slot 70 in a panel 71. The lower longitudinal edge 72 of the slot 70 is cranked to the front of the panel 71, in order further to facilitate the clamping of the key-supports 32
10 (Figs. 4—6) or the key-supports 60 (Fig. 7) to the longitudinal edge 72.

According to Fig. 11, a key-support 75 is provided with two clamping parts 76 which are arranged at the top and bottom of the label-holder or body portion 33 and are bent to the rear thereof. The two clamping parts 76 resiliently engage the neighbouring longitudinal edges of two slots 77 which are provided in a panel 78 a comparatively slight
20 distance apart.

The key-support 80 shown in Fig. 12 also has two clamping elements 81 which are disposed at the top and bottom of the label-holder or body portion 33. The clamping parts 81 are hook-shaped and embrace two neighbouring edges 82 and 83 of two transversal slots 84 and 85. Both said edges 82 and 83 are cranked to the front out of the plane of the panel 86 in which the slots 84 and 85 are formed. The key-support 80 can be pushed in a direction longitudinally of the slots 84, 85 onto the edges 82, 83 and can be withdrawn therefrom.

35 In all aforescribed forms of the key-supports, these can be put on the respective panel singly or independently of each other, and can be laterally displaced or withdrawn.

The key cabinet shown in Figs. 15—17 includes for instance a sheet-metal casing 90 closable by a door 92 hinged to the casing at 91. The rear wall 93 of the casing 90 is arranged to form a key panel, the rear wall being provided with a plurality of horizontal slots 94 adapted to engage clamping engagement of key-supports 32 or 60 or 65. In order to increase the capacity of the cabinet, two additional panels 95 and 96 are provided, these panels facing each other with their backs and being connected to each other a certain
50 distance apart by means of spacer bolts 97. Each of said panels 95, 96 has several transversal slots 98 adapted to enable clamping engagement of key-supports 32 or 60 or 65. These key-supports, when clamped to the
55 sides of the panels 95 and 96 are directed away from each other, as shown in Fig. 16. One panel 95 is mounted on links 98 so as to swivel about vertical axes, the links 98 being in turn swivable about other vertical axes and arranged at the top and bottom of the casing 90. Thus, with door 92 opened, it is possible to turn the two panels 95, 96 out of the casing 80 and to swivel them through more than 180 degrees. In this way, easy access may be

gained to the key-supports or keys at the rear panel 96. In Fig. 17 the panels 95, 96 are shown as partially swivelled.

65 From Figs. 15—17 it may be seen that the casing 90 is fitted with two pairs of bushes 99, each intended for taking a pin of the links 98. One pair of the bushes 99 is situated at the left and the other at the right sidewall of the casing 90. Thus the links 98 may be selectively supported in the bushes of one pair or the other to permit of the panels 95, 96 being swung out of the casing 90 either to the left or to the right.

70 The interspace between the two panels 95, 96 may serve for accommodating a key index which, for the user, is substantially hidden from view.

75 The described key cabinet may be either suspended on a wall or let into a wall.

80 Figs. 18 and 19 show another form of embodiment of a key cabinet. The casing thereof comprises a frame formed, for example, of wood and including two side battens 101, 102, a bottom batten 103 and a top batten 104. The side battens 101, 102 are each provided with an inside groove 105. The top batten 104 has a throughgoing slot 106 which opens at its two ends into the grooves 105. Through the slot 106 a key panel is inserted into the grooves 105. The key panel includes several equal substantially rectangularly shaped parts, each possessing at one edge two projections 108, as shown particularly in Fig. 20. The parts 107 are fitted into the frame 101—104, with the projections 108 pointing upwards. The second and the following members rest with their lower edge upon the projections 108 of the directly underlying member 107 so as to form horizontal slots 109 between the successive members 107, enabling the key-supports 32 or 60 to clamping engage the top edge of each member 107.

85 The door 110 for closing the key cabinet has a frame comprising side battens 111, 112, a bottom batten 113 and a top batten 114. The door is hinged (at 118) to the frame 101—104 of the casing. The vertical frame battens 111, 112 are provided with inside grooves 115, and the top batten 114 has a slot 106 which opens at its ends into the grooves 115. If on the panel, made up of the members 107, there is not enough space for the key-supports 32 and the keys to be hung up, the capacity of the cabinet may be doubled by inserting through the slot 116 other members 107 of a second key panel which can also take supports for keys.

90 The described key cabinet is particularly suitable for the household. The subdivision of the key panels into several identical members 107 has the advantage that the same members may also be used for higher cabinets. Alternatively it is possible to have the individual members 107 designed differently high so that the distances apart of horizon-

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ral slots 109 may be determined at will to suit the length of the keys to be hung up.

The arrangement shown in Figs. 21—24 includes a key panel also composed of several members 120. According to Fig. 21, these members 120 are each provided at the bottom with two projections 121 which rest on the top edge of the directly underlying member 120 so as to define a slot 122 between two consecutive members. In addition, each member 120 is also formed with a horizontal slot 123. Both the top edges of the members 120 and the bottom longitudinal edges of the slots 123 may have key-supports 32 or 60 clamped thereto. The members 120 are kept assembled by a frame comprising a bottom stirrup 125, a top stirrup 126 and a plurality of vertical side pieces 127. The latter are all of the same design and agree in length with the vertical dimension of the various members 120 of the panel. Each of the vertical pieces possesses at one end a tenon 128 and at the other end a suitable recess 129. Similarly, the stirrup limbs of the top part 126 have pins or tenons 128, and the stirrup limbs of the bottom part 125 have recesses 129. The tenons or pins 128 are fitted into the recesses 129 of the neighbouring parts 125, 126, 127 and secured from slipping out by means of lateral clamping screws 130. The side pieces 127 and the vertical limbs of the stirrup 125 are provided with a longitudinal groove 131 for engagement by the vertical edges of the panel members 120, as distinctly shown in Fig. 23.

The described arrangement according to Figs. 21—24 has the advantage that it may be increased at any time by inserting further panel members 120 and lateral pieces 127 as desired to enable a larger number of keys to be filed. It is possible to use the system at first with a single panel member 120 only. In such case no lateral pieces 127 are needed and the tenons or pins 128 of the top stirrup 126 are fitted direct into the recesses 129 of the bottom stirrup 125.

If the frame 125—127 is suspended or swivably mounted in such a way as to render the panel formed of the members 120 accessible from either side, the key-supports 32 may be put on both sides of the panel, by having them, on one side thereof, clamped to the top edge of the panel members 120, and the key-supports on the other side clamped to the lower longitudinal edge of the slots 122.

Obviously, instead of manufacturing the frame members 125—127 of solid bar material it is also possible to have them made of tubing.

WHAT I CLAIM IS:—

1. A key filing device comprising a panel formed with a plurality of spaced apart and substantially parallel slots so that, when the panel is disposed in a normal substantial vertical position, the slots will extend substan-

tially horizontally, a plurality of key-supports each constituted of a single piece of material and having a body portion adapted to receive a key-identification label, at least one clamping member projecting rearwardly from said body portion, and a key hook projecting forwardly from the base of said body portion, said key-supports being removably fixed to said panel by engagement of said clamping members with an edge of at least one selected one of the slots, the construction of said clamping members being such as to enable the key-supports to be attached to and removed from the panel substantially in a direction at right-angles to the plane of said panel.

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2. A key filing device according to Claim 1, wherein said clamping member of each of the key-supports comprises a tab formed at the upper edge of said body portion and extending rearwardly, then downwardly therefrom to define, with said body portion, a hook adapted frictionally and removably to grip the lower edge of a slot in the panel.

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3. A key filing device according to Claim 1, wherein said clamping member of each of the key-supports comprises a pair of tabs formed at the upper and the lower edge of said body portion and extending rearwardly, first diverging and then converging, said tabs being adapted frictionally and removably to grip the two edges of a selected one of the slots.

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4. A key filing device according to Claim 1, wherein said clamping member of each of the key-supports comprises a pair of tabs formed at the upper and the lower edge of said body portion and extending, first converging and then diverging, said tabs being adapted frictionally and removably to grip an edge of two consecutive ones of the slots.

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5. A key filing device according to any one of the preceding claims, wherein said panel is constituted of a plurality of planar sections having said slots therebetween, each of said sections being substantially of rectangular form and having projections which rest against one edge of the adjacent section, whereby contiguous edges of adjacent sections define the slots therebetween.

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6. A key filing device according to any one of the preceding claims, wherein the panel comprises various members or sections which engage in grooves of a frame so as to keep said member or section assembled.

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7. A key filing device according to Claim 6, wherein the frame is a component part of a key cabinet.

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8. A key filing device according to Claim 6, wherein the frame has vertical battens composed of various pieces, the length of which corresponds to the height of the various members of the panel.

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9. A key filing device according to Claim 1, wherein the panel includes holding means for a removable and changeable key index, said means being integral with the panel.

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10. A key filing device according to Claim 1, wherein the panel, on both sides, is provided with key-supports.

11. A key filing device according to Claim 5 10, wherein the panel constitutes an intermediate wing between a door and a rear wall of a key cabinet, swivably supported on links about vertical axes, said limbs being in turn swivable about vertical axes within 10 the cabinet so that, with open cabinet door, the panel may be swung through at least 180 degrees.

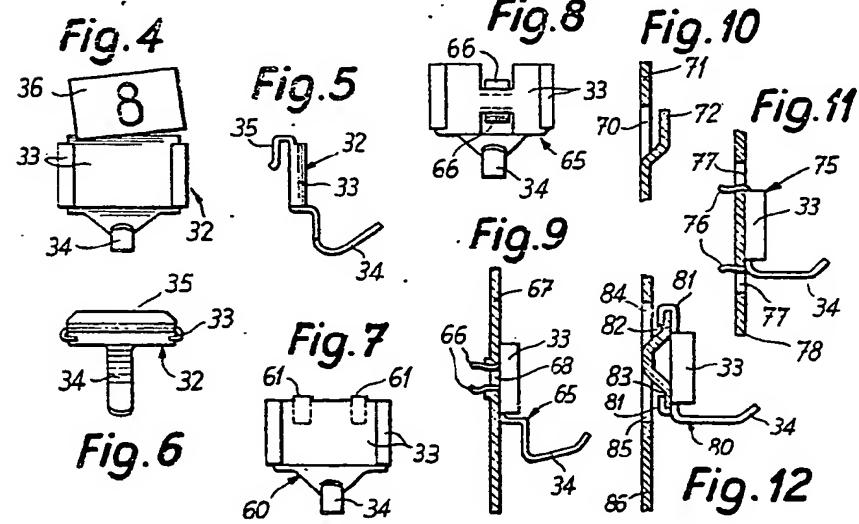
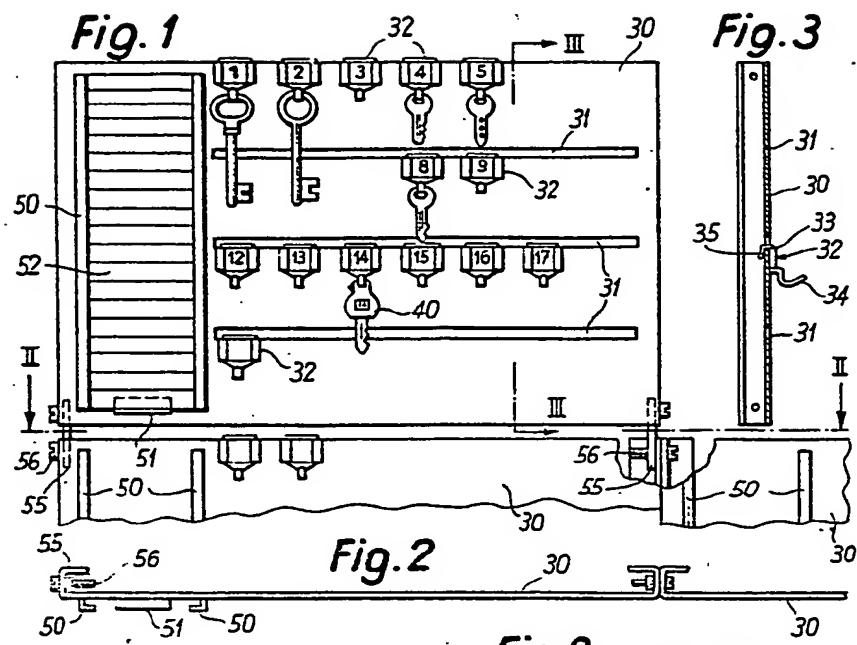
12. A key filing device according to Claim

9, wherein the panel consists of two plates facing each other with their backs and interconnected so as to leave therebetween a space serving to take a key index. 15

13. A key filing device substantially as hereinbefore described with reference to any one of the embodiments illustrated in the accompanying drawings. 20

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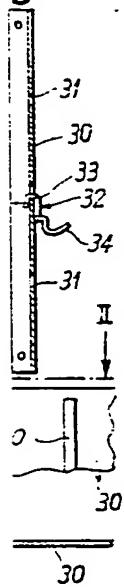
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COMPLETE SPECIFICATION

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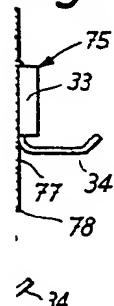
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Fig. 3



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Fig. 11



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Fig. 15

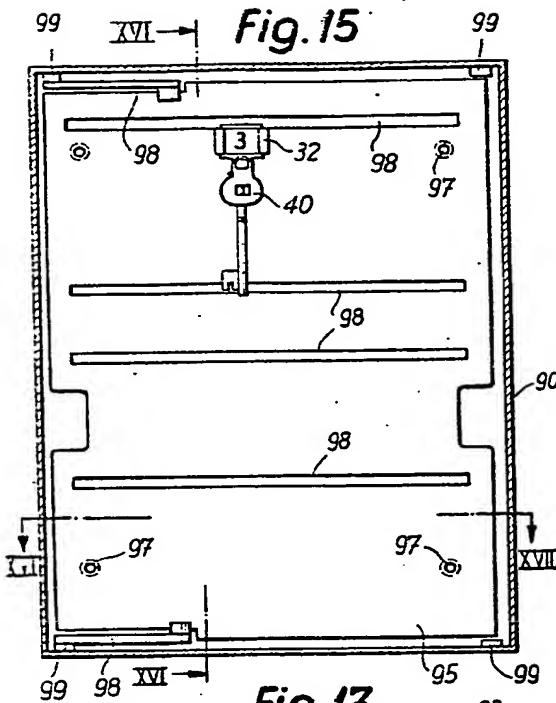


Fig. 17

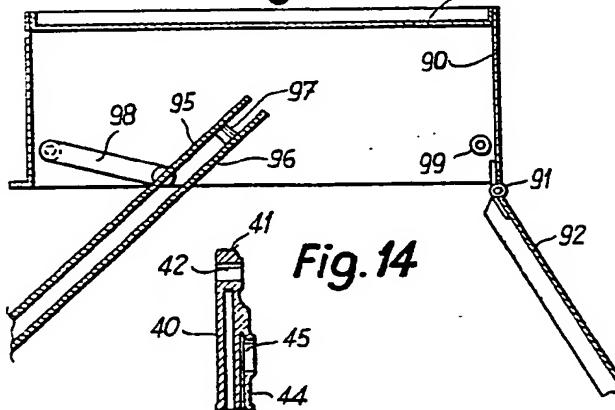


Fig. 14

Fig. 16

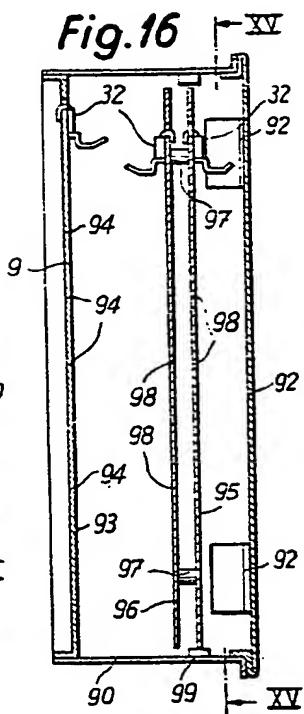
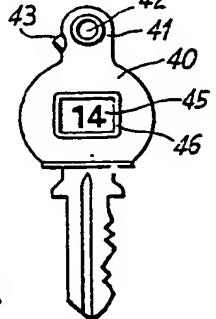
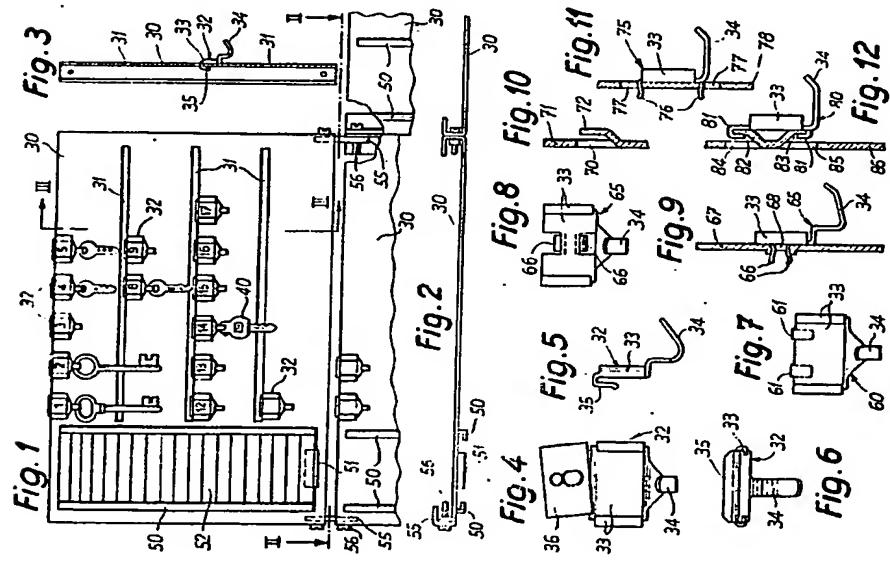


Fig. 13





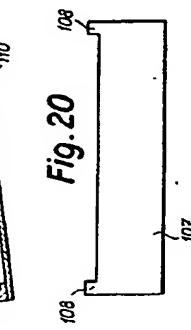
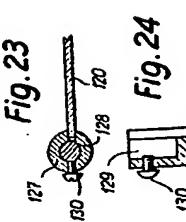
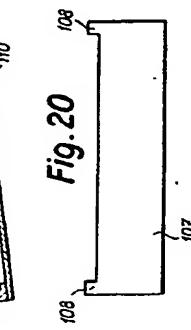
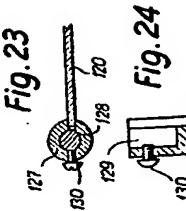
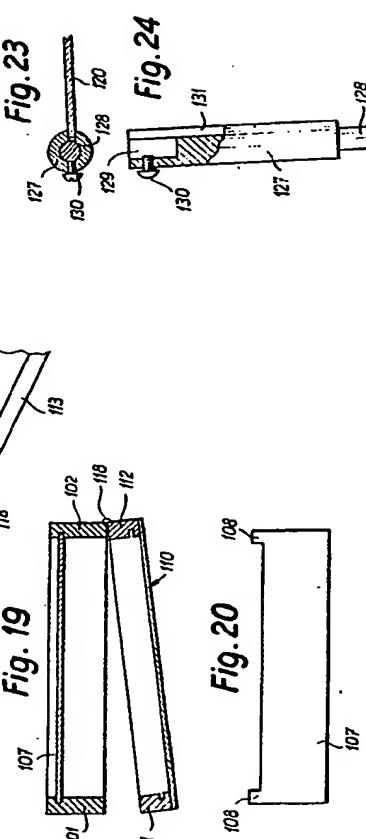
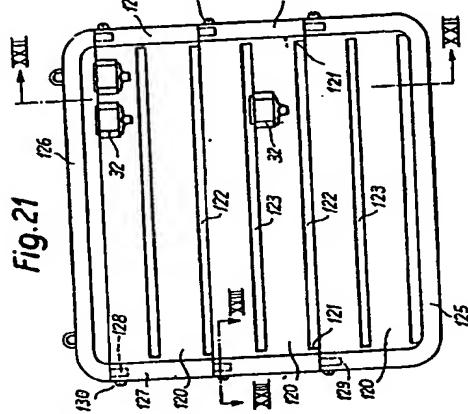
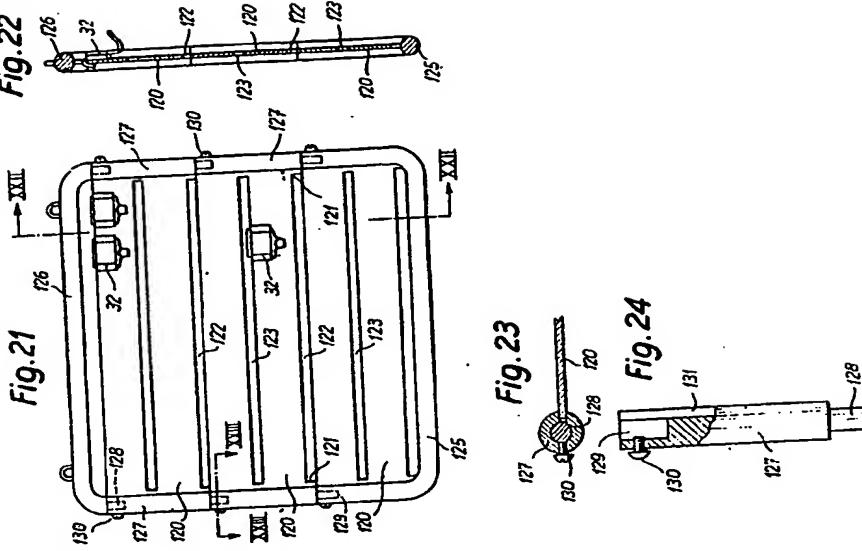
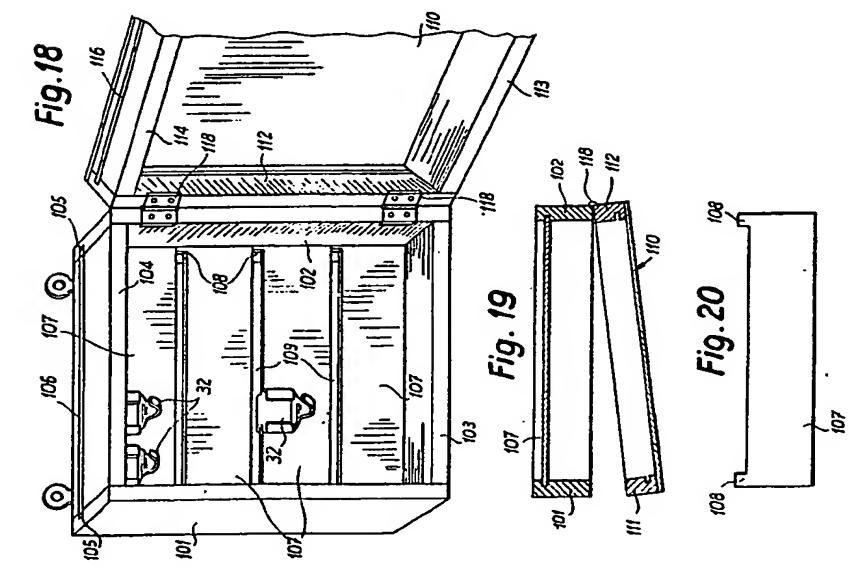


Fig. 18

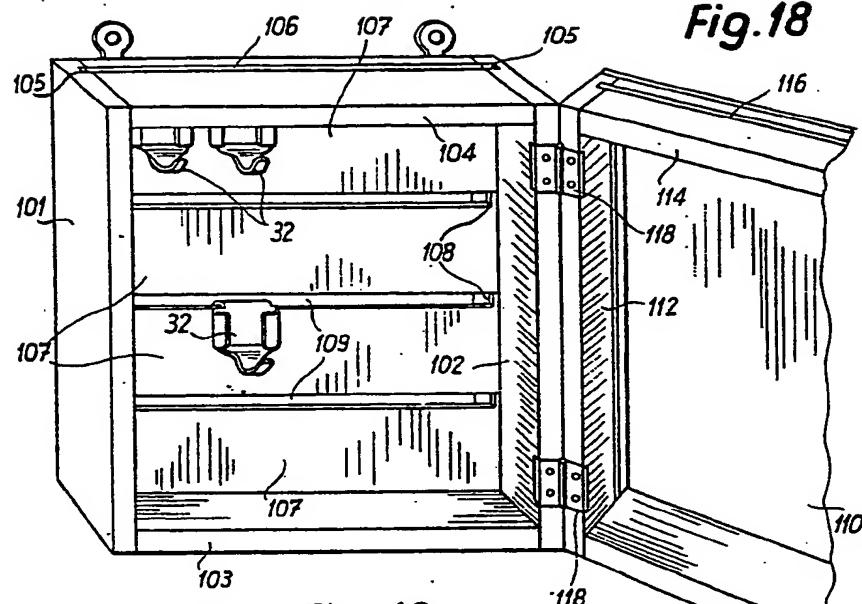


Fig. 19

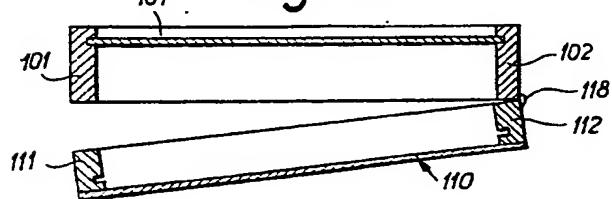
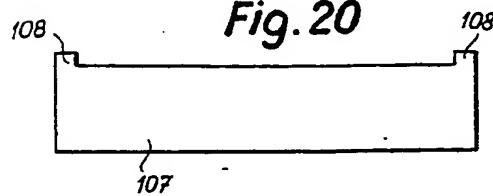


Fig. 20



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Fig. 18

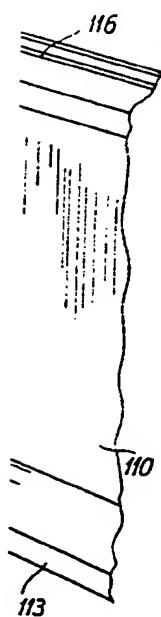


Fig. 21

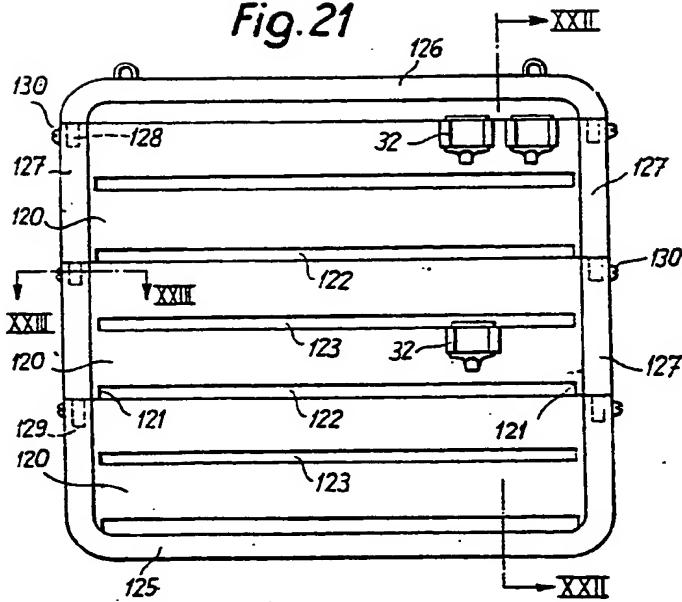


Fig. 22

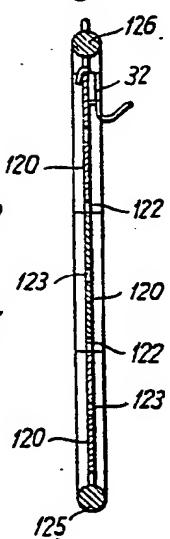


Fig. 23

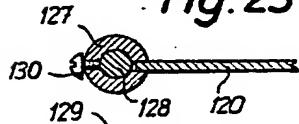


Fig. 24

